```
=> fil reg
FILE 'REGISTRY' ENTERED AT 13:26:11 ON 26 DEC 2007
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STRUCTURE FILE UPDATES:   25 DEC 2007  HIGHEST RN 959463-53-7
DICTIONARY FILE UPDATES:  25 DEC 2007  HIGHEST RN 959463-53-7

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que stat l10
L6              SCR 2043 OR 1918
L8              STR
```


```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   4

STEREO ATTRIBUTES: NONE
L10      408214 SEA FILE=REGISTRY SSS FUL L8 NOT L6

100.0% PROCESSED  408360 ITERATIONS                      408214 ANSWERS
SEARCH TIME: 00.00.02


=> d que stat l37
L37             STR
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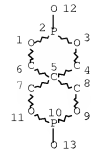
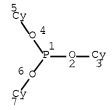


NODE ATTRIBUTES:
CONNECT IS E3 RC AT 2
CONNECT IS E3 RC AT 10
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

=> d que stat l18
L18 STR

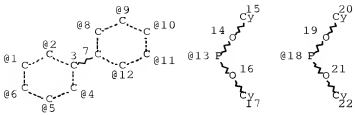


NODE ATTRIBUTES:
CONNECT IS E3 RC AT 1
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 3
GGCAT IS UNS AT 5
GGCAT IS UNS AT 7
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

=> d que stat l42
L24 STR



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VPA 13-2/1/6/5/4 U
VPA 18-8/9/10/11/12 U
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT   IS UNS  AT  15
GGCAT   IS UNS  AT  17
GGCAT   IS UNS  AT  20
GGCAT   IS UNS  AT  22
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L28          51 SEA FILE=REGISTRY SSS FUL L24
L40             STR
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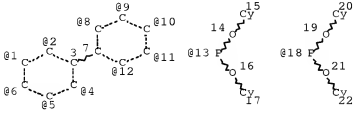

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VPA 13-2/1/6/5/4 U
VPA 18-8/9/10/11/12 U
NODE ATTRIBUTES:
CONNECT IS E3  RC AT  13
CONNECT IS E3  RC AT  18
DEFAULT MLEVEL IS ATOM
GGCAT   IS UNS  AT  15
GGCAT   IS UNS  AT  17
GGCAT   IS UNS  AT  20
GGCAT   IS UNS  AT  22
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L42          37 SEA FILE=REGISTRY SUB=L28 SSS FUL L40

100.0% PROCESSED      51 ITERATIONS                    37 ANSWERS
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SEARCH TIME: 00.00.01


=> d his nofile

     (FILE 'HOME' ENTERED AT 12:41:15 ON 26 DEC 2007)

     FILE 'HCAPLUS' ENTERED AT 12:41:38 ON 26 DEC 2007
L1             1 SEA ABB=ON  PLU=ON  US2006146228/PN
                 SEL RN

     FILE 'REGISTRY' ENTERED AT 12:42:16 ON 26 DEC 2007
L2            12 SEA ABB=ON  PLU=ON  (153550-59-5/BI OR 18600-59-4/BI OR
                 202289-68-7/BI OR 24936-68-3/BI OR 25971-63-5/BI OR
                 3147-76-0/BI OR 31570-04-4/BI OR 3333-62-8/BI OR
                 3806-34-6/BI OR 512-56-1/BI OR 58984-32-0/BI OR 808764-07
                 -0/BI)
                 D SCA

     FILE 'LREGISTRY' ENTERED AT 12:50:40 ON 26 DEC 2007
L3               STR
L4               SCR 2043

     FILE 'REGISTRY' ENTERED AT 12:51:45 ON 26 DEC 2007
L5            50 SEA SSS SAM L3 NOT L4
L6               SCR 2043 OR 1918
L7            50 SEA SSS SAM L3 NOT L6
L8               STR L3
L9            50 SEA SSS SAM L8 NOT L6
L10       408214 SEA SSS FUL L8 NOT L6
L11            3 SEA ABB=ON  PLU=ON  L2 AND L10
                 D SCA

     FILE 'LREGISTRY' ENTERED AT 12:55:52 ON 26 DEC 2007
L12              STR

     FILE 'REGISTRY' ENTERED AT 12:58:10 ON 26 DEC 2007
L13           23 SEA SUB=L10 SSS SAM L12
L14          377 SEA SUB=L10 SSS FUL L12
                 SAV L14 SES818S1/A
L15            1 SEA ABB=ON  PLU=ON  L2 AND L14

     FILE 'LREGISTRY' ENTERED AT 12:59:04 ON 26 DEC 2007
L16              STR

     FILE 'REGISTRY' ENTERED AT 13:01:16 ON 26 DEC 2007
L17            8 SEA SUB=L10 SSS SAM L16
L18              STR L16
L19            2 SEA SUB=L10 SSS SAM L18
L20         1502 SEA SUB=L10 SSS FUL L18
                 SAV L20 SES818S2/A
L21            1 SEA ABB=ON  PLU=ON  L2 AND L20
                 D SCA

     FILE 'LREGISTRY' ENTERED AT 13:04:56 ON 26 DEC 2007
L22              STR

     FILE 'REGISTRY' ENTERED AT 13:07:39 ON 26 DEC 2007
L23            0 SEA SSS SAM L22
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     FILE 'LREGISTRY' ENTERED AT 13:08:00 ON 26 DEC 2007
L24              STR

     FILE 'REGISTRY' ENTERED AT 13:10:03 ON 26 DEC 2007
L25            4 SEA SSS SAM L24
L26              STR L24
L27            2 SEA SSS SAM L26
                 D SCA
L28           51 SEA SSS FUL L24
                 SAV L28 SES818A2/A

     FILE 'HCAPLUS' ENTERED AT 13:12:00 ON 26 DEC 2007
L29              QUE ABB=ON  PLU=ON  STABILIZ?
L30          880 SEA ABB=ON  PLU=ON  L14(L)L29
L31         1586 SEA ABB=ON  PLU=ON  L20(L)L29
L32          330 SEA ABB=ON  PLU=ON  L28(L)L29
L33        28697 SEA ABB=ON  PLU=ON  (HEAT? OR THERMAL?)(2A)L29
L34          518 SEA ABB=ON  PLU=ON  L30 AND L33
L35          866 SEA ABB=ON  PLU=ON  L31 AND L33
L36          218 SEA ABB=ON  PLU=ON  L32 AND L33
                 D HITSTR 1-2

     FILE 'REGISTRY' ENTERED AT 13:16:14 ON 26 DEC 2007
L37              STR L12
L38           19 SEA SUB=L10 SSS SAM L37
L39          278 SEA SUB=L10 SSS FUL L37
                 SAV L39 SES818S3/A
L40              STR L24
L41            2 SEA SUB=L28 SSS SAM L40
                 D SCA
L42           37 SEA SUB=L28 SSS FUL L40
                 SAV L42 SES818S4/A

     FILE 'HCAPLUS' ENTERED AT 13:18:35 ON 26 DEC 2007
L43         2328 SEA ABB=ON  PLU=ON  L39
L44          659 SEA ABB=ON  PLU=ON  L42
L45          518 SEA ABB=ON  PLU=ON  L43 AND L34
L46          210 SEA ABB=ON  PLU=ON  L44 AND L36
L47        67913 SEA ABB=ON  PLU=ON  (OPTICAL? OR LIGHT?)(2A)(FILM? OR
                 SHEET? OR PLATE?)
L48           18 SEA ABB=ON  PLU=ON  L45 AND L47
L49           17 SEA ABB=ON  PLU=ON  L35 AND L47
L50            8 SEA ABB=ON  PLU=ON  L46 AND L47
L51         1173 SEA ABB=ON  PLU=ON  (L45 OR L35 OR L46) AND (PY<=2003 OR
                 PRY<=2003 OR AY<=2003)
L52           11 SEA ABB=ON  PLU=ON  L51 AND L48
L53           14 SEA ABB=ON  PLU=ON  L51 AND L49
L54            7 SEA ABB=ON  PLU=ON  L51 AND L50


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 13:26:36 ON 26 DEC 2007
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FILE COVERS 1907 - 26 Dec 2007 VOL 147 ISS 26
FILE LAST UPDATED: 25 Dec 2007 (20071225/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l52 ibib abs hitstr hitind 1-11

L52 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1127635 HCAPLUS Full-text
DOCUMENT NUMBER: 142:65575
TITLE: Direct back light type liquid crystal display and light diffuse plate
INVENTOR(S): Sogo, Isao; Ando, Masato; Takeo, Mitsuhiro; Maeda, Koji; Jinno, Masanao
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004111692	A1	20041223	WO 2004-JP8766	200406 16
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1809766	A	20060726	CN 2004-80017048	200406 16
			<--	
US 2006146228	A1	20060706	US 2006-559818	200601 18
			<--	

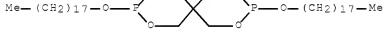
PRIORITY APPLN. INFO.: JP 2003-171774 A 200306 17
<--
WO 2004-JP8766 W 200406 16

OTHER SOURCE(S): MARPAT 142:65575

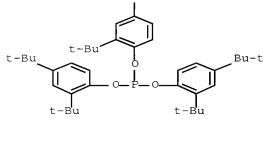
AB A direct back light type liquid crystal display having high light diffusion capability, retaining excellent tone and exhibiting high luminance. In particular, a direct back light type liquid crystal display including a back light light source, a light diffuse plate, a ray regulation film and a liquid crystal panel, the light diffuse plate optionally having its back light light source side or both sides provided with a protection film, wherein the light diffuse plate is comprised of a composition comprising: (A) aromatic polycarbonate resin (component A) and (B) polymer microparticles of 0.01 to 50 μm average diameter (component B) and, mixed therewith in given amts. per 100 pts.weight of the sum of component A and component B, (C) at least one thermal stabilizer (component C) selected from the group consisting of phosphate compds. (component C-1), phosphite compds. (component C-2) and phosphonite compds. (component C-3), (D) UV absorber (component D) and (E) fluorescent brightener (component E).

IT 3806-34-6, ADK Stab PEP 8 31570-04-4,
Tris(2,4-di-tert-butylphenyl)phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(thermal stabilizer in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)



RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



IC ICM G02B005-02

ICS G02F001-1335; C08L069-00; F21S002-00
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST liq crystal display direct backlight light diffuse plate
IT Silsesquioxanes
RL: DEV (Device component use); USES (Uses)
(Me, Tospearl 120, microparticles in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Optical instruments
(diffusers; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Liquid crystal displays
(direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Polycarbonates, preparation
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT 3147-76-0, Kemisorb 79 18600-59-4, CEi-P
RL: MOA (Modifier or additive use); USES (Uses)
(UV absorber in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT 3333-62-8, Hakkol PSR 58984-32-0, Kayalight OS
RL: MOA (Modifier or additive use); USES (Uses)
(fluorescent brightener in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT 24936-68-3P, preparation 25971-63-5P, Bisphenol A-phosgene copolymer
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT 202289-68-7, Paraloid EXL 5136 808764-07-0, MBX 3S
RL: DEV (Device component use); USES (Uses)
(microparticles in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting

high luminance)
IT 512-56-1, Trimethyl phosphate 3806-34-6, ADK Stab PEP 8 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 153550-59-5, Sandostab P-EPQ
RL: MOA (Modifier or additive use); USES (Uses)
(thermal stabilizer in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:287079 HCAPLUS Full-text
DOCUMENT NUMBER: 140:304984
TITLE: Heat-resistant resin compositions, transparent optical films with no surface defects, and their manufacture
INVENTOR(S): Shiota, Minoru; Takanoo, Yutaka; Shimokawa, Minoru
PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

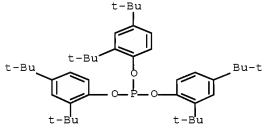
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004107371	A	20040408	JP 2002-267922	200209 13
PRIORITY APPLN. INFO.:			JP 2002-267922	200209 13

<--

AB Title compns. comprise (A) thermoplastic resins containing (substituted) imide groups on side chains, (B) thermoplastic resins containing (substituted) Ph and nitrile groups on side chains, (C) lactones and/or phenolic acrylates as heat stabilizers, and (D) phenols and/or P compds. as heat stabilizers. Optical films, useful for liquid crystal displays, etc., show haze ≤2% and light transmittance ≥85% and are manufactured by melt extruding and optionally biaxially stretching the compns. Thus, isobutene-N-methylmaleimide alternating copolymer 65, acrylonitrile-styrene copolymer 35, 3-(3,4-dimethylphenyl)-5,7-di- tert-butyl-3H-benzofuran-2-one 0.05, pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 0.13, and tris(2,4-di-tert-butylphenyl) phosphite 0.13 part were mixed and extruded to give a film showing haze 0.25%, light transmittance 91.3%, and no surface defects.
IT 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizer; thermoplastic resin compns. containing heat stabilizers for heat -resistant transparent optical films with

good appearance)
RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)

IT 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizers; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



IC ICM C08L101-02
ICS C08J005-18; C08K005-10; C08K005-13; C08K005-49; C08L023-02; C08L025-00; C08L033-18; C08L035-00; G02F001-1333
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73
ST isobutene maleimide copolymer optical film heat resistance; acrylonitrile styrene copolymer optical film heat resistance; benzofuranone pentaerythritol hydroxyphenylpropionate phosphite heat stabilizer transparent film; lactone phenolic heat stabilizer thermoplastic optical film
IT Heat stabilizers
Optical films
Plastic films
Transparent films
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent

optical films with good appearance)

IT 1843-03-4, 1,1,3-Tris(2-methyl-4-hydroxy-5-tert-butylphenyl)butane 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite 123968-25-2, 2-[1-(2-Hydroxy-3,5-di-tert-pentylphenyl)ethyl]-4,6-di-tert-pentylphenyl acrylate 133410-72-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizer; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

IT 6683-19-8, Pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 164391-52-0, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizers; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

IT 9003-54-7, Acrylonitrile-styrene copolymer 173219-65-3, Isobutene-N-methylmaleimide alternating copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

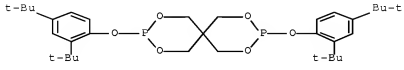
L52 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:541470 HCAPLUS Full-text
DOCUMENT NUMBER: 137:248371
TITLE: Additive interactions in the stabilization of film grade high-density polyethylene. Part II: stabilization during long-term service
AUTHOR(S): Parrondo, Aitor; Allen, Norman S.; Edge, Michele; Liauw, Christopher M.; Fontan, Eusebio
CORPORATE SOURCE: Department of Chemistry and Materials, Centre for Materials Science, Manchester Metropolitan University, Manchester, M1 5GD, UK
SOURCE: Journal of Vinyl & Additive Technology (2002), 8(2), 90-102
CODEN: JVATF4; ISSN: 1083-5601
PUBLISHER: Society of Plastics Engineers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The performance of phenol/phosphite/Zn stearate packages and the contribution of each additive to the long-term thermal stabilization and photostabilization of HDPE film were evaluated using Phillips catalyst technol. IR, UV and yellowness index measurements were used to establish the performance of the additive combinations. HPLC anal. of dichloromethane exts. of the polymer was carried out after melt processing to determine the amount of phenolic antioxidant remaining in the samples. The long-term thermal stabilization was dependent only on the phenolic antioxidant concentration, whereas both phenolic antioxidants and phosphites contributed directly to photostabilization. Zn stearate did not show any significant influence on the stabilization under either thermooxidative or photooxidative conditions.

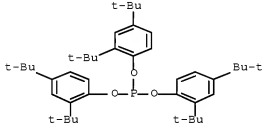
IT 26741-53-7, PEP 24 31570-04-4, Irgafos 168 80693-00-1, PEP 36 154362-45-8, Alkanox 28

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(additive interaction in long term thermal and light stabilization of film grade HDPE)

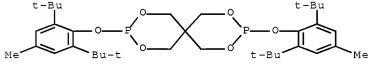
RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)



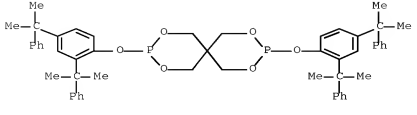
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



RN 154862-43-8 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1-methyl-1-phenylethyl)phenoxy]- (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)
ST HDPE film stabilizer additive interaction; thermal stabilizer interaction HDPE film; photostabilizer interaction HDPE film
IT Antioxidants
Heat stabilizers
Light stabilizers
(additive interaction in long term thermal and light stabilization of film grade HDPE)
IT 557-05-1, Zinc stearate 1709-70-2, Irganox 1330 1843-03-4, Lowinox CA22 6683-19-8, Irganox 1010 26523-78-4, TNPP 26741-53-7, PEP 24 31570-04-4, Irgafos 168 80410-33-9, Irgafos 12 80693-00-1, PEP 36 118337-09-0, Ethanox 398 140221-14-3, Mark HP10 145650-60-8, Irgafos 38 154862-43-8, Alkanox 28
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(additive interaction in long term thermal and light stabilization of film grade HDPE)
IT 9002-88-4, Polyethylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(high-d.; additive interaction in long term thermal and light stabilization of film grade HDPE)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:91270 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148383
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031752	A	20010206	JP 1999-207247	19990722 <--
PRIORITY APPLN. INFO.:			JP 1999-207247	19990722 <--

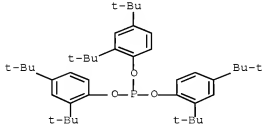
OTHER SOURCE(S): MARPAT 134:148383
AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and

carbonate esters to have relative fluorescence strength at 465 nm vs. standard substance ≤4 x 10-3 in fluorescence spectrum (excited wave length 320 nm) and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' = pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts bisphenol A-diphenyl carbonate copolymer (relative fluorescence strength 1 + 10-3, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

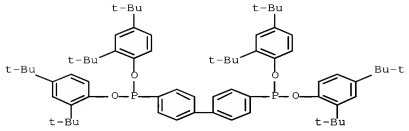
IT 3806-34-6, Dioctadecylpentaerythritol diphosphite
31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)

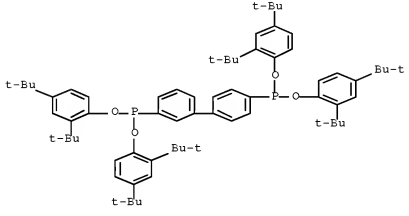
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



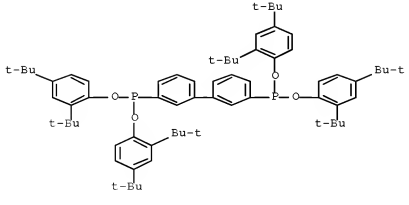
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08G064-04
ICS C08G064-30; C08K005-49; C08L069-00

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)
IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7, Bis(2,4-di-tert-butylphenyl)-4-phenyl-phenylphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0, Bis(2,4-di-tert-butylphenyl)-3-phenyl-phenylphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L52 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:89689 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148377
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031859	A	20010206	JP 1999-207246	19990722
PRIORITY APPLN. INFO.:			JP 1999-207246	19990722

OTHER SOURCE(S): MARPAT 134:148377

AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and carbonate esters by melt-polymerization to have residual catalyst activity ≤2% and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' = pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts 2,2'-bis(4-hydroxyphenyl)propane- diphenyl carbonate copolymer (residual catalyst activity 0.3%, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

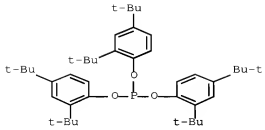
IT 3806-34-6, Dioctadecylpentaerythritol diphosphite
31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

RN 3806-34-6 HCAPLUS

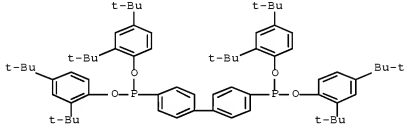
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)

RN 31570-04-4 HCAPLUS

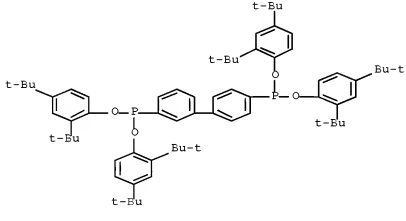
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



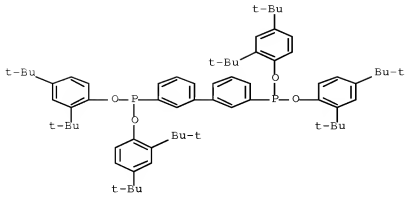
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L069-00
ICS C08K003-32; C08K005-521; C08K005-524; C08K005-53; C08K005-5333; G11B007-24
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)
IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 21570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7 118421-60-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-61-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0

RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L52 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:406736 HCAPLUS Full-text
DOCUMENT NUMBER: 131:74731
TITLE: Discoloration-, heat- and weather-resistant transparent polyolefin laminated films having long-lasting antifogging properties for agricultural uses
INVENTOR(S): Tan, Junji; Kasai, Tetsushi
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11168991	A	19990629	JP 1997-349306	199712 18
PRIORITY APPLN. INFO.:			JP 1997-349306	199712 18

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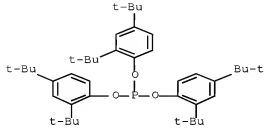
AB Title films, useful for greenhouses, tunnels, etc., are molded from compns. containing polyolefins prepared by metallocene catalysts, phenolic OH-containing compds., organic phosphites, hindered amines, and antifogging agents. Thus, ethylene (I) was copolymd. with 1-hexene (II) in the presence of a catalyst comprising SiO2, methylaluminoxane, bis(1-methyl-3-butylcyclopentadienyl)zirconium dichloride, and Al(iso-Bu)3 to give copolymers. Then, a composition (as an outer layer) containing 92.5:7.5 I-II copolymer (d. 0.928 g/cm3; MFR 1.63 g/10 min; Mw/Mn 3.5) 85, LDPE (d. 0.923; MFR 0.51) 15, 1,3,5-tris(4-hydroxy- 3,5-di-tert-butylbenzyl)-s-triazine-2,4,6-(1H,3H,5H)-trione (III) 0.1, tris(2,4-di-tert-butylphenyl)phosphite (IV) 0.1, poly[[6-(1,1,3,3-tetramethylbutyl)imino-1,3,5-triazine-2,4- diyl][(2,2,6,6-tetramethyl-4-piperidyl)imino]hexamethylene[(2,2,6,6- tetramethyl-4-piperidyl)imino]] (V) 0.1, and 25:70:5 mixture (A) of glycerin monostearate, diglycerin stearate, and diethanol stearylamine 2 parts, was molded with a composition (as an inner layer) containing 86.5:13.5 I-II copolymer (d. 0.908; MFR 1.95; Mw/Mn 3.0) 85, LDPE 15, III 0.1, IV 0.1, V 0.1, and A 3 parts and a composition (as a middle layer) containing 86.5:13.5 I-II copolymer 85, LDPE 15, III 0.1, IV 0.1, V 0.1, and A 2 parts to give a 3-layer tubular film. The film showed light transmittance 90% initially and 58% after 2-yr outdoor exposure and retention of tensile elongation 75% after 2 yr.

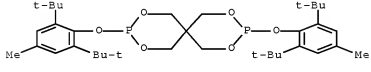
IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite
80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritoldiphosphite
RL: MOA (Modifier or additive use); USES (Uses)
(stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

RN 31570-04-4 HCAPLUS

CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



IC ICM A01G009-14
ICS A01G013-02; B32B027-32; C08J005-18; C08K005-00; C08L023-02; C08K005-13; C08K005-3492; C08K005-524; C08K005-3435; C08K005-10; C08L023-04
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 19
IT Antifogging agents
Antioxidants
Greenhouses
Heat stabilizers
Laminated plastic films
Transparent films
(discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)
IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(hindered, stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)
IT Phosphites
RL: MOA (Modifier or additive use); USES (Uses)
(organic, stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)
IT 2082-79-3, Octadecyl-3-(4'-hydroxy-3',5'-di-tert-butylphenyl)propionate 27676-62-6 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 40601-76-1 71878-19-8 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritoldiphosphite
RL: MOA (Modifier or additive use); USES (Uses)

(stabilizer; discoloration-, heat- and
weather-resistant multilayer polyolefin films having long-lasting
antifogging properties for agricultural uses)

L52 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:503364 HCAPLUS Full-text
DOCUMENT NUMBER: 123:171991
TITLE: Heat-resistant fluoro resin compositions and
heat-shrinkable tubes made from them
INVENTOR(S): Hayami, Hiroshi
PATENT ASSIGNEE(S): Sumitomo Electric Industries, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07033938	A	19950203	JP 1993-200158	199307 21
			<--	
PRIORITY APPLN. INFO.:			JP 1993-200158	199307 21
			<--	

AB The title compns. comprising copolymers of ethylene and F2C:CF2 or F2C:CH2, multifunctional monomers, and phosphite esters are molded to form tubes, crosslinked by irradiation, and expanded to give heat-shrinkable tubes. A mixture of ethylene-F2C:CF2 copolymer 100, triallyl isocyanurate 1, and dioctadecyl pentaerythritol diphosphite 0.3 part was extruded to give a film showing light transmittance (400 or 700 nm) 88-90% initially and after irradiation with an electron beam.

IT 3806-34-6
RL: MOA (Modifier or additive use); USES (Uses)
(stabilizer; for fluoropolymer during electron beam
crosslinking in preparation of heat-shrinkable tubes)

RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane,
3,9-bis(octadecyloxy)- (CA INDEX NAME)

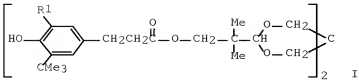
IC ICM C08L027-12
ICS B29C061-08; C08K005-10; C08K005-3492; C08K005-524; H01B007-28; H02G015-18
ICI B29K027-12
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37
IT Antioxidants
Heat stabilizers
(phosphite esters; for electron beam crosslinking of

fluoropolymers in preparation of heat-shrinkable tubes)
IT Pipes and Tubes
(heat-shrinkable, phosphite stabilizers for fluoropolymkers for electron beam crosslinking in preparation of)
IT 3806-34-6 54383-82-3D, Bisphenol A diphosphite, tetra(C12-15 alkyl) esters
RL: MOA (Modifier or additive use); USES (Uses)
(stabilizer; for fluoropolymer during electron beam crosslinking in preparation of heat-shrinkable tubes)

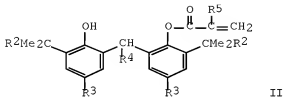
L52 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:540439 HCAPLUS Full-text
DOCUMENT NUMBER: 119:140439
TITLE: Stabilized polyolefin film and fiber compositions
INVENTOR(S): Ishii, Tamaki; Yachigo, Shinichi; Kojima, Fumitoshi; Ida, Kanako
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 530984	A1	19930310	EP 1992-307211	19920806
			<--	
EP 530984	B1	19951115		
R: BE, DE, FR, GB, IT, NL				
JP 05059227	A	19930309	JP 1991-222727	19910903
			<--	
JP 3082333	B2	20000828		
CA 2074870	A1	19930304	CA 1992-2074870	19920729
			<--	
US 5250593	A	19931005	US 1992-940375	19920903
			<--	
KR 226316	B1	19991015	KR 1992-16021	19920903
			<--	
PRIORITY APPLN. INFO.:			JP 1991-222727 A	19910903
			<--	

OTHER SOURCE(S): MARPAT 119:140439
GI



I



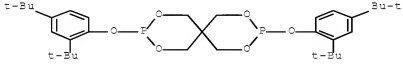
II

AB The title compns., stabilized against thermal oxidation during processing and use and discoloration by combustion gas or N oxides, comprise (per 100 parts polyolefin) ≥0.01 part hindered phenolic spiro compound I (R1 = H, C1-3 alkyl), ≥0.01 part aryl acrylate II (R2 = C1-5 alkyl; R3 = C1-8 alkyl; R4 = H, C1-8 alkyl; R5 = H, Me), ≥0.1 part of a specified organic phosph(on)ite compound and, optionally, a hindered piperidine-based polyester light stabilizer. Thus, a blend containing unstabilized polypropylene 100, Ca stearate 0.05, I (R1 = Me) 0.1, II (R2 = Et, R3 = CMe2Et, R4 = Me, R5 = H) 0.1, bis(2,6-di-tert-butyl-4- methylphenyl)pentaerythritol diphosphite (III) 0.1, and a polycondensate of di-Me succinate with 1-(2-hydroxyethyl)-4-hydroxy- 2,2,6,6-tetramethylpiperidine (IV) 0.1 part was melt-spun at 340° into filaments and stretched at 135°. Discoloration of the resulting filament fibers was observed after 26 days at 135°, vs. 14 days for similar fibers spun from a blend containing no III and no IV.

IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite
RL: USES (Uses)
(heat and light stabilizers, for polypropylene fibers)

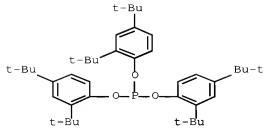
RN 26741-53-7 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)

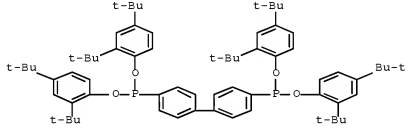


RN 31570-04-4 HCAPLUS

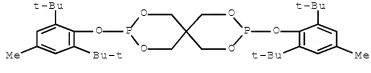
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



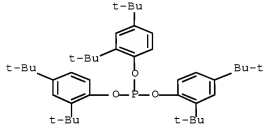
IC ICM C08L023-02
ICS C08K005-00
ICI C08K005-00, C08K005-15, C08K005-13, C08K005-52, C08K005-3435
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 40
ST polyolefin fiber discoloration stabilization; polypropylene fiber discoloration stabilization; hydroxyethylhydroxytetramethylpiperidine polyester heat stabilization polypropylene; film polyolefin discoloration heat stabilization ; piperidine compd stabilizer polyolefin
IT Polypropene fibers, miscellaneous
RL: MSC (Miscellaneous)
(heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT Phosphites
RL: USES (Uses)
(heat and light stabilizers, for polyolefin

fibers and films)
IT Heat stabilizers
(hindered phenols and organic phosph(on)ites, for light-stabilized polyolefin fiber and film)
IT Light stabilizers
(hindered piperidine-based polyester, for heat-stabilized polyolefin fibers and films)
IT Polyesters, miscellaneous
RL: MSC (Miscellaneous)
(hindered piperidine-based, heat- and light-stabilized polypropylene composition containing)
IT Phenols, uses
RL: USES (Uses)
(hindered, heat and light stabilizers, for polyolefin fibers and films)
IT Alkenes, polymers
RL: USES (Uses)
(polymers, films, heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 61167-58-6 70198-29-7 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite 90498-90-1 118337-09-0 123968-25-2 140221-14-3
RL: USES (Uses)
(heat and light stabilizers, for polypropylene fibers)

L52 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:535210 HCAPLUS Full-text
DOCUMENT NUMBER: 107:135210
TITLE: Deactivation of impurities in polycarbonate
AUTHOR(S): Blyumenfel'd, A. B.; Levantovskaya, I. I.; Dralyuk, G. V.; Shlyakhter, M. G.
CORPORATE SOURCE: USSR
SOURCE: Plasticheskie Massy (1987), (7), 48-50
CODEN: PLMSAI; ISSN: 0554-2901
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The effect of residual CH2Cl2 content (c = 0.03-0.5%) on the optical properties of polycarbonate (PC), obtained by polycondensation of diphenylolpropane disodium salt with phosgene, at processing temperature 280-300° was studied. The light transmission (K) of PC in the absence of CH2Cl2 solvent decreased from 99 to 98% after 10 min heating, and K of PC containing 0.5, 0.2, and 0.03% CH2Cl2 decreased to 79, 84, and 94%, resp., after heating under analogous conditions. The threshold content of CH2Cl2 above which deterioration of the optical properties of PC takes place was determined from the linear K vs. log c dependences to be 0.015%. The effect of heat stabilizers bis(2,4-di-tert-butylphenyl) pentaerythrityl diphosphite and tris(2,4-di-tert-butylphenyl) phosphite on the k of PC films prepared from CH2Cl2 solns. was also determined
IT 26741-53-7 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, deactivation of residual methylene chloride in polycarbonate by, optical properties in relation to)

RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)

RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)
IT Heat stabilizers
(phosphite esters, deactivation of methylene chloride impurities in polycarbonate films by, optical properties in relation to)
IT 26741-53-7 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, deactivation of residual methylene chloride in polycarbonate by, optical properties in relation to)

L52 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:497662 HCAPLUS Full-text
DOCUMENT NUMBER: 107:97662
TITLE: Heat-resistant methacrylic acid-styrene copolymer
INVENTOR(S): Otani, Ikuji; Watanabe, Akihiro
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61271343	A	19861201	JP 1985-111720	198505

24

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PRIORITY APPLN. INFO.: JP 1985-111720

198505

24

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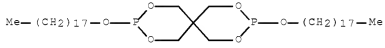
AB Transparent compns. useful for microwave oven plates and light elec. appliance parts contain 1-50:99-50 methacrylic acid-styrene copolymer (I) (viscosity of 10% MEK solution 3-20 cP at 25°) and 0.001-0.5 phr phosphite esters. Thus, 8:92 I (solution viscosity 8.5 cP) containing 0.009 phr 4,4',4''-(1,1,3-butanetriyl)tris(6-tert-butyl-3-methylphenol) tris(didecyl phosphite) had Vicat temperature 125° and good transparency and heat resistance.

IT 3806-34-6 64012-42-6 99144-33-9

RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for methacrylic acid-styrene copolymers)

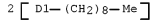
RN 3806-34-6 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)



RN 64012-42-6 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(nonylphenoxy)- (CA INDEX NAME)



RN 99144-33-9 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(tridecyloxy)- (9CI) (CA INDEX NAME)

IC ICM C08L025-08

CC 37-6 (Plastics Manufacture and Processing)
ST methacrylic acid copolymer stabilizer; styrene copolymer heat stabilizer; phosphite ester heat stabilizer; phenol hindered phosphite stabilizer
IT Heat stabilizers
(phosphite esters, for transparent methacrylic acid-styrene polymers)
IT 9010-92-8, Methacrylic acid-styrene copolymer
RL: USES (Uses)
(heat stabilizers for transparent, phosphite esters as)
IT 80-04-6D, phosphite esters 1333-21-7, Tris(dinonylphenyl)phosphite 3315-29-5 3806-34-6 13003-12-8 13598-36-2D, Phosphorous acid, esters with isopropylidenedicyclohexanol 26523-78-4, Tris(monononylphenyl)phosphite 64912-42-6 68958-97-4 99144-33-9
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for methacrylic acid-styrene copolymers)

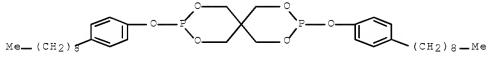
L52 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1974:553639 HCAPLUS Full-text
DOCUMENT NUMBER: 81:153639
ORIGINAL REFERENCE NO.: 81:23941a,23944a
TITLE: Phosphite ester stabilizers for polycarbonate
INVENTOR(S): Ohzeki, Toshio
PATENT ASSIGNEE(S): Adeka Argus Chemical Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49021454	A	19740225	JP 1972-61475	197206 20 <--
JP 51021430	B	19760702		
PRIORITY APPLN. INFO.:			JP 1972-61475 A	197206 20 <--

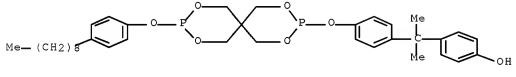
AB The polycarbonate composition containing phosphite (I, R, R1 = independently H, alkyl, aryl, cycloalkyl, aralkyl, alkylaryl with or without substitution, or polyphenol or polyol with or without phosphite group) has good heat stability. Thus, a 0.2:0.1:0.2 (molar) mixture of (PhO)3P, pentaerythritol, and p-nonylphenol was heated at 135.deg. in the presence of 0.1% K2CO3 and evacuated to remove PhOH to give I (R = R1 = p-nonylphenyl) (II) [52664-24-1]. A mixture of 100 parts polycarbonate and 0.05 part II was pressed at 260.deg. to give a 1-mm sheet which discolored light yellow after 30 min at 250.deg., compared with brown for a similar sheet containing tris(nonylphenyl) phosphite. I (R = p-nonylphenyl, R1 = bisphenol A residue) [52664-25-2], I (R = R1 = Ph) [144-35-4], and 2 other I were prepared and used.
IT 144-35-4 52664-24-1 52664-25-2
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polycarbonates)

RN 144-35-4 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy- (CA INDEX NAME)

RN 52664-24-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(4-nonylphenoxy)- (CA INDEX NAME)



RN 52664-25-2 HCAPLUS
CN Phenol, 4-[1-methyl-1-[4-[[9-(4-nonylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undec-3-yl]oxy]phenyl]ethyl]- (CA INDEX NAME)



INCL 25(1)D34; 25(1)A231.61
CC 36-6 (Plastics Manufacture and Processing)
ST heat stabilizer polycarbonate; pentaerythritol phosphite stabilizer
IT Heat stabilizers
(pentaerythritol aryl phosphites, for polycarbonates)
IT 463-79-6, Carbonic acid
RL: USES (Uses)
(heat stabilizers for, pentaerythritol aryl phosphite esters as)
IT 144-35-4 52664-24-1 52664-25-2
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polycarbonates)

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L53 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1127635 HCAPLUS Full-text
DOCUMENT NUMBER: 142:65575
TITLE: Direct back light type liquid crystal display and light diffuse plate
INVENTOR(S): Sogo, Isao; Ando, Masato; Takeo, Mitsuhiro;

Maeda, Koji; Jinno, Masanao
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004111692	A1	20041223	WO 2004-JP8766	200406 16
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1809766	A	20060726	CN 2004-80017048	200406 16
			<--	
US 2006146228	A1	20060706	US 2006-559818	200601 18
			<--	
PRIORITY APPLN. INFO.:			JP 2003-171774 A	200306 17
			<--	
			WO 2004-JP8766 W	200406 16

OTHER SOURCE(S): MARPAT 142:65575

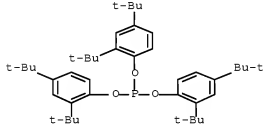
AB A direct back light type liquid crystal display having high light diffusion capability, retaining excellent tone and exhibiting high luminance. In particular, a direct back light type liquid crystal display including a back light light source, a light diffuse plate, a ray regulation film and a liquid crystal panel, the light diffuse plate optionally having its back light light source side or both sides provided with a protection film, wherein the light diffuse plate is comprised of a composition comprising: (A) aromatic polycarbonate resin (component A) and (B) polymer microparticles of 0.01 to 50 μm average diameter (component B) and, mixed therewith in given amts. per 100 pts.weight of the sum of component A and component B, (C) at least one thermal stabilizer (component C) selected from the group consisting of phosphate compds. (component C-1), phosphite compds. (component C-2) and phosphonite compds. (component C-3), (D) UV absorber (component D) and (E) fluorescent brightener (component E).

IT 3896-34-6, ADK Stab PEP 8 31570-04-4,

Tris(2,4-di-tert-butylphenyl)phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(thermal stabilizer in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)

RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



IC ICM G02B005-02
ICS G02F001-1335; C08L069-00; F21S002-00
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST liq crystal display direct backlight light diffuse plate
IT Silsesquioxanes
RL: DEV (Device component use); USES (Uses)
(Me, Tospearl 120, microparticles in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Optical instruments
(diffusers; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Liquid crystal displays
(direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)
IT Polycarbonates, preparation

RL: DEV (Device component use); PNU (Preparation, unclassified);
PREP (Preparation); USES (Uses)
(light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

IT 3147-76-0, Kemisorb 79 18600-59-4, CEi-P
RL: MOA (Modifier or additive use); USES (Uses)
(UV absorber in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

IT 3333-62-8, Hakkol PSR 58984-32-0, Kayalight OS
RL: MOA (Modifier or additive use); USES (Uses)
(fluorescent brightener in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

IT 24936-68-3P, preparation 25971-63-5P, Bisphenol A-phosgene copolymer
RL: DEV (Device component use); PNU (Preparation, unclassified);
PREP (Preparation); USES (Uses)
(light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

IT 202289-68-7, Paraloid EXL 5136 808764-07-0, MBX 3S
RL: DEV (Device component use); USES (Uses)
(microparticles in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

IT 512-56-1, Trimethyl phosphate 3806-34-6, ADK Stab PEP 8 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 153550-59-5, Sandostab P-EPQ
RL: MOA (Modifier or additive use); USES (Uses)
(thermal stabilizer in light diffusion plate; direct back light type liquid crystal display with light diffuse plate having high light diffusion capability, retaining excellent tone, and exhibiting high luminance)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:287079 HCAPLUS Full-text
DOCUMENT NUMBER: 140:304984
TITLE: Heat-resistant resin compositions, transparent optical films with no surface defects, and their manufacture
INVENTOR(S): Shiota, Minoru; Takanoo, Yutaka; Shimokawa, Minoru
PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004107371	A	20040408	JP 2002-267922	20020913

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PRIORITY APPLN. INFO.: JP 2002-267922 20020913

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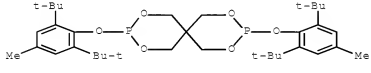
AB Title compns. comprise (A) thermoplastic resins containing (substituted) imide groups on side chains, (B) thermoplastic resins containing (substituted) Ph and nitrile groups on side chains, (C) lactones and/or phenolic acrylates as heat stabilizers, and (D) phenols and/or P compds. as heat stabilizers. Optical films, useful for liquid crystal displays, etc., show haze ≤2% and light transmittance ≥85% and are manufactured by melt extruding and optionally biaxially stretching the compns. Thus, isobutene-N-methylmaleimide alternating copolymer 65, acrylonitrile-styrene copolymer 35, 3-(3,4-dimethylphenyl)-5,7-di- tert-butyl-3H-benzofuran-2-one 0.05, pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 0.13, and tris(2,4-di-tert-butylphenyl) phosphite 0.13 part were mixed and extruded to give a film showing haze 0.25%, light transmittance 91.3%, and no surface defects.

IT 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizer; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

RN 80693-00-1 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)

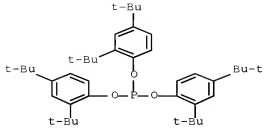


IT 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizers; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

RN 31570-04-4 HCAPLUS

CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX

NAME)



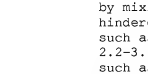
IC ICM C08L101-02
ICS C08J005-18; C08K005-10; C08K005-13; C08K005-49; C08L023-02; C08L025-00; C08L033-18; C08L035-00; G02F001-1333
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73
ST isobutene maleimide copolymer optical film heat resistance; acrylonitrile styrene copolymer optical film heat resistance; benzofuranone pentaerythritol hydroxyphenylpropionate phosphite heat stabilizer transparent film; lactone phenolic heat stabilizer thermoplastic optical film
IT Heat stabilizers
Optical films
Plastic films
Transparent films
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
IT 1843-03-4, 1,1,3-Tris(2-methyl-4-hydroxy-5-tert-butylphenyl)butane 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite 123968-25-2, 2-[1-(2-Hydroxy-3,5-di-tert-pentylphenyl)ethyl]-4,6-di-tert-pentylphenyl acrylate 133410-72-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizer; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
IT 6683-19-8, Pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 164391-52-0, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(heat stabilizers; thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)
IT 9003-54-7, Acrylonitrile-styrene copolymer 173219-65-3,

Isobutene-N-methylmaleimide alternating copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. containing heat stabilizers for heat-resistant transparent optical films with good appearance)

L53 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:178 HCAPLUS Full-text
DOCUMENT NUMBER: 140:28445
TITLE: Hindered amine light stabilizer-containing weather resistant PVC film and its preparation
INVENTOR(S): Ye, Yongcheng; Bai, Fuchen
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 16 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1359972	A	20020724	CN 2001-143499	200112 29
PRIORITY APPLN. INFO.:			CN 2001-143499	200112 29

AB A weather-resistant PVC film with a sustaining period over 18 mo is prepared by mixing 100 parts PVC resin (DP: 800-1 700) with 0.2-0.3 or 0.2-0.45 parts hindered amine light stabilizer, such as GW-540, 0.2-0.3 parts UV absorber, such as benzotriazole, 0.3-0.5 parts antioxidant, such as antioxidant 1010, 2.2-3.7 parts heat stabilizer, such as Zn stearate, 44-52 parts plasticizer, such as DOP, and 2.4-2.9 parts auxiliaries, such as saponite, and calendering.
IT 101-02-0, Triphenyl phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(hindered amine light stabilizer-containing weather resistant PVC film)
RN 101-02-0 HCAPLUS
CN Phosphorous acid, triphenyl ester (CA INDEX NAME)



IC ICM C08L027-06
ICS C08K055-24; C08J005-18
CC 38-3 (Plastics Fabrication and Uses)
IT Plastic films
(hindered amine light stabilizer-containing weather resistant PVC film)
IT 84-74-2, Dibutyl phthalate 85-68-7, Butylbenzyl phthalate

101-02-0, Triphenyl phosphite 106-84-3, Octyl epoxy stearate 123-79-5, Dioctyl adipate 131-57-7 147-14-8, Phthalocyanine Blue 557-05-1, Zinc stearate 1330-78-5, Tritolyl phosphate 1338-41-6, Span-60 1843-05-6 3135-19-1 3648-21-3, Diheptyl phthalate 3864-99-1, 2-(2'-Hydroxy-3',5'-di-tert-butylphenyl)-5-chlorobenzotriazole 3896-11-5 6683-19-8, Antioxidant 1010 7631-86-9, Silica, uses 26266-57-9, Span-40 49637-59-4, Phenyldiisooctyl phosphite 66732-77-2, Saponite 125052-71-3, CA (antioxidant)
RL: MOA (Modifier or additive use); USES (Uses)
(hindered amine light stabilizer-containing weather resistant PVC film)

IT 2223-93-0, Cadmium stearate 6865-35-6, Barium stearate
RL: MOA (Modifier or additive use); USES (Uses)
(thermal stabilizer; hindered amine light stabilizer-containing weather resistant PVC film)

L53 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:544041 HCAPLUS Full-text
DOCUMENT NUMBER: 137:371041
TITLE: Production of weather-resistant polyethylene films containing light stabilizers
INVENTOR(S): Tayurskii, V. A.; Zakazov, A. N.; Amosov, V. V.; Yanbaev, S. P.; Pozdnukhov, A. N.
PATENT ASSIGNEE(S): Otkrytoe Aktsionernoe Obshchestvo "Angarskaya Neftekhimicheskaya Kompaniya", Russia
SOURCE: Russ., No pp. given
CODEN: RUXXE7
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2174525	C2	20011010	RU 1999-111689	19990531
PRIORITY APPLN. INFO.:			RU 1999-111689	19990531

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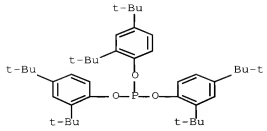
AB A polyethylene film contains Benazol P as a light stabilizer, Irgaphos 168 as a heat stabilizer and Irganox 1010 as an antioxidant. The film is exposed to irradiation with electron beams with radiation dose of 0.7-1.3 Mrad. The film shows high weather-resistant characteristics and can be used in agriculture.

IT 31570-04-4, Irgafos 168
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; production of weather-resistant polyethylene films containing light stabilizers)

RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



IC ICM C08J005-18
ICS C08L023-06; C08J003-28
CC 38-3 (Plastics Fabrication and Uses)
IT Electron beams
(irradiation; of films in production of weather-resistant polyethylene films containing light stabilizers)
IT Light stabilizers
Plastic films
(production of weather-resistant polyethylene films containing light stabilizers)
IT 6683-19-8, Irganox 1010
RL: MOA (Modifier or additive use); USES (Uses)
(antioxidant; production of weather-resistant polyethylene films containing light stabilizers)
IT 31570-04-4, Irgafos 168
RL: MOA (Modifier or additive use); USES (Uses)
(beat stabilizer; production of weather-resistant polyethylene films containing light stabilizers)
IT 9002-88-4, Polyethylene
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(high-d.; production of weather-resistant polyethylene films containing light stabilizers)
IT 2440-22-4, Benazol P
RL: MOA (Modifier or additive use); USES (Uses)
(light stabilizer; production of weather-resistant polyethylene films containing light stabilizers)

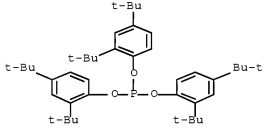
L53 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:541470 HCAPLUS Full-text
DOCUMENT NUMBER: 137:248371
TITLE: Additive interactions in the stabilization of film grade high-density polyethylene. Part II: stabilization during long-term service
AUTHOR(S): Parrondo, Aitor; Allen, Norman S.; Edge, Michele; Liauw, Christopher M.; Fontan, Eusebio
CORPORATE SOURCE: Department of Chemistry and Materials, Centre for Materials Science, Manchester Metropolitan University, Manchester, M1 5GD, UK
SOURCE: Journal of Vinyl & Additive Technology (2002), 8(2), 90-102
CODEN: JVATF4; ISSN: 1083-5601
PUBLISHER: Society of Plastics Engineers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The performance of phenol/phosphite/Zn stearate packages and the contribution of each additive to the long-term thermal stabilization and photostabilization of HDPE film were evaluated using Phillips catalyst technol. IR, UV and yellowness index measurements were used to establish the performance of the additive combinations. HPLC anal. of dichloromethane exts. of the polymer was carried out after melt processing to determine the amount of phenolic antioxidant remaining in the samples. The long-term thermal stabilization was dependent only on the phenolic antioxidant concentration, whereas both phenolic antioxidants and phosphites contributed directly to photostabilization. Zn stearate did not show any significant influence on the stabilization under either thermooxidative or photooxidative conditions.

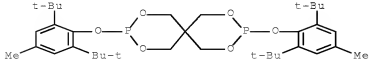
IT 26741-53-7, PEP 24 31570-04-4, Irgafos 168
80693-00-1, PEP 36 154862-43-8, Alkanox 28
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(additive interaction in long term thermal and light stabilization of film grade HDPE)

RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)

RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)

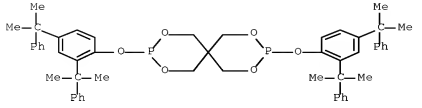


RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



RN 154862-43-8 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1-methyl-1-phenylethyl)phenoxy]- (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)

ST HDPE film stabilizer additive interaction; thermal stabilizer interaction HDPE film; photostabilizer interaction HDPE film

IT Antioxidants
Heat stabilizers
Light stabilizers
(additive interaction in long term thermal and light stabilization of film grade HDPE)

IT 557-05-1, Zinc stearate 1709-70-2, Irganox 1330 1843-03-4, Lowinox CA22 6683-19-8, Irganox 1010 26523-78-4, TNPP 26741-53-7, PEP 24 31570-04-4, Irgafos 168 80410-33-9, Irgafos 12 80693-00-1, PEP 36 118337-09-0, Ethanox 398 140221-14-3, Mark HP10 145650-60-8, Irgafos 38 154862-43-8, Alkanox 28
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(additive interaction in long term thermal and light stabilization of film grade HDPE)

IT 9002-88-4, Polyethylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(high-d.; additive interaction in long term thermal and light stabilization of film grade HDPE)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:573359 HCAPLUS Full-text
DOCUMENT NUMBER: 135:153631
TITLE: Light-diffusion aromatic polycarbonate compositions
INVENTOR(S): Mitsunaga, Masaki
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 2001214049 A 20010807 JP 2000-127307 200004 27

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PRIORITY APPLN. INFO.: JP 1999-333771 A 199911 25

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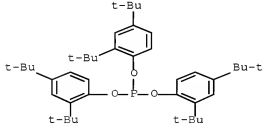
OTHER SOURCE(S): MARPAT 135:153631

AB The compns., useful for light-diffusion plates, etc., contain (A) 100 parts polymers containing 80-99.995% aromatic polycarbonates and 0.005-20% polymeric fine particles, (B) 0.0001-0.05 part ≥1 P-based stabilizers chosen from di- or mono-R1-substituted biphenyl and (R2O)3P [R1 = P(OR3)2; R2 = dialkyl-substituted C8-20 aromatic group; R3 = (alkyl-substituted) C6-20 aromatic group], (C) 0.001-1.0 part tri-Me phosphate, (D) 0.001-1.0 part hindered phenol compds., and (E) 0-0.5 part fluorescent brighteners. Thus, a composition containing (A) 99 parts bisphenol A-phosgene copolymer, (B) 1 part MBX 5 (crosslinked acrylic polymer particle), (C) 0.003 part a 71:15:14 mixture of (a) a 100:50:1 mixture of tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenediphosphonite, tetrakis(2,4-di-tert-butylphenyl) 4,3'-biphenylenediphosphonite, and tetrakis(2,4-di-tert-butylphenyl) 3,3'-biphenylenediphosphonite, (b) a 5:3 mixture of bis(2,4-di-tert-butylphenyl)-4-phenylphenylphosphonite and bis(2,4-di-tert-butylphenyl)-3-phenylphenylphosphonite, and (c) tris(2,4-di-tert-butylphenyl)phosphite, (D) 0.05 part tri-Me phosphate, and (E) 0.15 part octadecyl 3-(4-hydroxy-3,5-di-tert- butylphenyl)propionate was injection-molded to give a test piece showing total light transmittance (ASTM D 1003) 78.1% and good heat and moisture discoloration resistance.

IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenediphosphonite 118421-00-4, Tetrakis(2,4-di-tert-butylphenyl) 3,4'-biphenylenediphosphonite 118421-01-5, Tetrakis(2,4-di-tert-butylphenyl) 3,3'-biphenylenediphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; light-diffusion aromatic polycarbonate compns. with good discoloration resistance)

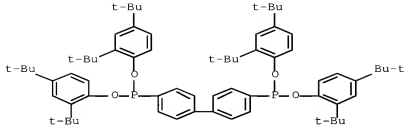
RN 31570-04-4 HCAPLUS

CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)

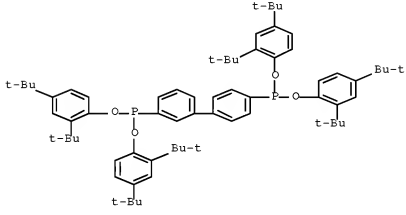


RN 38613-77-3 HCAPLUS

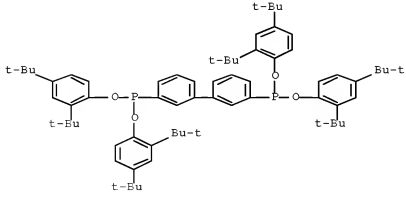
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L069-00

ICS C08K005-00; C08K005-13; C08K005-51; C08K005-521; C08L101-12
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
ST light diffusion arom polycarbonate phosgene bisphenol; heat stabilizer butylphenyl biphenylenediphosphonite phenylphenylphosphonite phosphite; discoloration prevention methyl phosphate octadecyl hydroxybutylphenylpropionate
IT Discoloration prevention agents
Fluorescent brighteners
Heat stabilizers
(light-diffusion aromatic polycarbonate compns. with good discoloration resistance)
IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenediphosphonite 91362-37-7, Bis(2,4-di-tert-butylphenyl)-4-phenylphenylphosphonite 118421-00-4, Tetrakis(2,4-di-tert-butylphenyl) 3,4'-biphenylenediphosphonite 118421-01-5, Tetrakis(2,4-di-tert-butylphenyl) 3,3'-biphenylenediphosphonite 313335-83-0, Bis(2,4-di-tert-butylphenyl)-3-phenylphenylphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; light-diffusion aromatic polycarbonate compns. with good discoloration resistance)

L53 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:91270 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148383
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

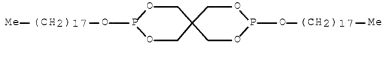
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031752	A	20010206	JP 1999-207247	19990722 <--
PRIORITY APPLN. INFO.:			JP 1999-207247	19990722 <--

OTHER SOURCE(S): MARPAT 134:148383
AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and carbonate esters to have relative fluorescence strength at 465 nm vs. standard substance ≤4 x 10-3 in fluorescence spectrum (excited wave length 320 nm) and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' =

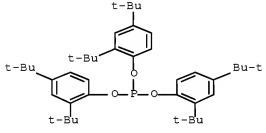
pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts bisphenol A-diphenyl carbonate copolymer (relative fluorescence strength 1 + 10-3, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

IT 3806-34-6, Dioctadecylpentaerythritol diphosphite
31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

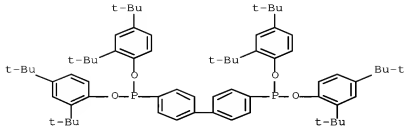
RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)



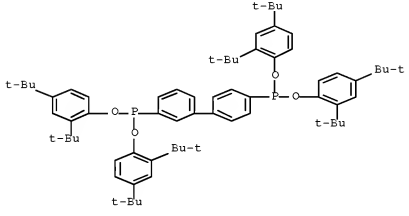
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



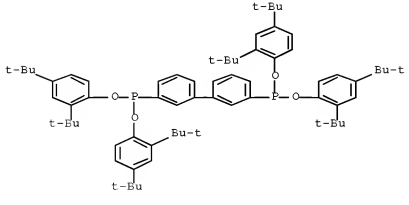
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08G064-04
ICS C08G064-30; C08K005-49; C08L069-00

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)
IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7, Bis(2,4-di-tert-butylphenyl)-4-phenyl-phenylphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0, Bis(2,4-di-tert-butylphenyl)-3-phenyl-phenylphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L53 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:89689 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148377
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031859	A	20010206	JP 1999-207246	19990722

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PRIORITY APPLN. INFO.: JP 1999-207246 19990722

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OTHER SOURCE(S): MARPAT 134:148377

AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and carbonate esters by melt-polymerization to have residual catalyst activity ≤2% and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' = pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts 2,2'-bis(4-hydroxyphenyl)propane- diphenyl carbonate copolymer (residual catalyst activity 0.3%, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

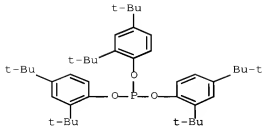
IT 3806-34-6, Dioctadecylpentaerythritol diphosphite
31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

RN 3806-34-6 HCAPLUS

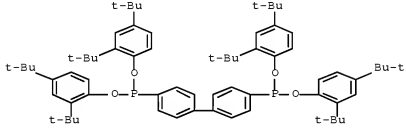
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)

RN 31570-04-4 HCAPLUS

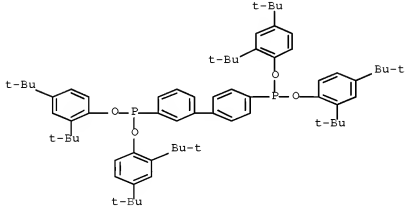
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



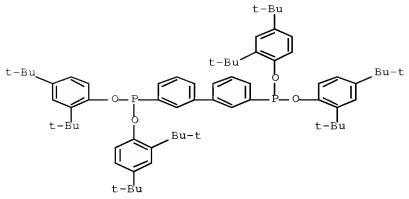
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L069-00
ICS C08K003-32; C08K005-521; C08K005-524; C08K005-53; C08K005-5333; G11B007-24
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)
IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 21570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7 118421-60-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-61-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0

RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L53 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:51614 HCAPLUS Full-text
DOCUMENT NUMBER: 132:195192
TITLE: Developments in hindered amine chemistry promote polyolefin growth opportunities
AUTHOR(S): Solera, Peter; Capocci, Gerald
CORPORATE SOURCE: Additives Division, Ciba Specialty Chemicals Corporation, Tarrytown, NY, 10951-9005, USA
SOURCE: Polymers & Polymer Composites (1999), 7(8), 521-536
CODEN: PPOCEC; ISSN: 0967-3911
PUBLISHER: Rapra Technology Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

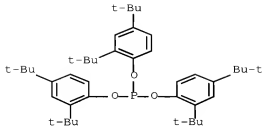
AB Over the past four decades, advances in polyolefin stabilization have helped manufacturers expand their material choices to capture economic and performance benefits. In the '60s and '70s, antioxidants and UV absorbers provided baseline levels of protection against thermal and UV degradation During the 1980's hindered amine light stabilizers substantially extended the service life of polyolefins for a multitude of film, fiber and molded articles. In the last ten years, breakthroughs in hindered amine chemical have pushed the performance boundaries of polyolefins to even greater heights. Now, in the '90s, the elimination of undesirable aspects of hindered amine stabilization, such as amine deactivation in flame retardant systems and reduced color yield in pigmented plastics, is allowing material substitution in markets traditionally earmarked for engineering polymers, glass and metal. This paper focuses on advances in hindered amine chemical designed to address these shortcomings. Examples of applications where new hindered amines provide enhanced value are demonstrated. Performance data are presented for polypropylene fiber, thermoplastic olefins for automotive parts and construction applications, polyethylene agricultural film and flame retardant systems. The advantage of using hindered amines as thermal stabilizers is also discussed.

IT 89421-57-8
RL: MOA (Modifier or additive use); USES (Uses)
(hindered amine light and heat stabilizers for polyolefins)

RN 89421-57-8 HCAPLUS
CN Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, 1,1'-[2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxy]methyl]-1,3-propanediyl] ester, mixt. with tris[2,4-bis(1,1-dimethylethyl)phenyl] phosphite (CA INDEX NAME)

CM 1

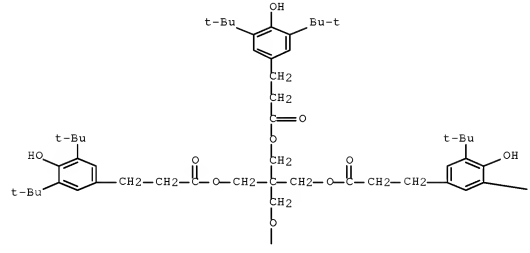
CRN 31570-04-4
CMF C42 H63 O3 P



CM 2

CRN 6683-19-8
CMF C73 H108 O12

PAGE 1-A



PAGE 1-B

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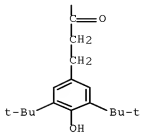
PAGE 2-A



CC 37-6 (Plastics Manufacture and Processing)
ST hindered amine light heat stabilizer polyolefin
IT Paints
(adhesion promoters for; hindered amine light and heat stabilizers for polyolefins)
IT EPDM rubber
RL: POF (Polymer in formulation); USES (Uses)
(blends; hindered amine light and heat stabilizers for polyolefins)
IT Heat stabilizers
Light stabilizers
(hindered amine light and heat stabilizers for polyolefins)
IT Polypropene fibers, uses
RL: POF (Polymer in formulation); USES (Uses)
(hindered amine light and heat stabilizers for polyolefins)
IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hindered amine light and heat stabilizers for polyolefins)
IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(hindered; hindered amine light and heat stabilizers for polyolefins)
IT Polyolefins
RL: POF (Polymer in formulation); USES (Uses)
(thermoplastic; hindered amine light and heat stabilizers for polyolefins)
IT 123250-74-8
RL: MOA (Modifier or additive use); USES (Uses)
(Irgastab FS 042; hindered amine light and heat stabilizers for polyolefins)
IT 9002-88-4
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(agricultural film; hindered amine light and heat stabilizers for polyolefins)
IT 25085-53-4
RL: POF (Polymer in formulation); USES (Uses)
(fiber; hindered amine light and heat stabilizers for polyolefins)
IT 25973-55-1 52829-07-9 70198-29-7 71878-19-8 89421-57-8

90751-07-8 106990-43-6 122586-52-1 195300-91-5 223714-51-0, CGL 116 260271-11-2, Tinuvin C 353
RL: MOA (Modifier or additive use); USES (Uses)
(hindered amine light and heat stabilizers for polyolefins)
IT 9003-07-0
RL: POF (Polymer in formulation); USES (Uses)
(hindered amine light and heat stabilizers for polyolefins)
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

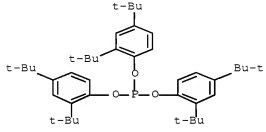
L53 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:406736 HCAPLUS Full-text
DOCUMENT NUMBER: 131:74731
TITLE: Discoloration-, heat- and weather-resistant transparent polyolefin laminated films having long-lasting antifogging properties for agricultural uses
INVENTOR(S): Tan, Junji; Kasai, Tetsushi
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11168991	A	19990629	JP 1997-349306	199712 18
			<--	
PRIORITY APPLN. INFO.:			JP 1997-349306	199712 18
			<--	

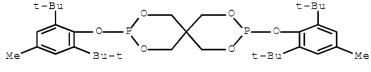
AB Title films, useful for greenhouses, tunnels, etc., are molded from compns. containing polyolefins prepared by metallocene catalysts, phenolic OH-containing compds., organic phosphites, hindered amines, and antifogging agents. Thus, ethylene (I) was copolymd. with 1-hexene (II) in the presence of a catalyst comprising SiO2, methylaluminoxane, bis(1-methyl-3-butylcyclopentadienyl)zirconium dichloride, and Al(iso-Bu)3 to give copolymers. Then, a composition (as an outer layer) containing 92.5:7.5 I-II copolymer (d. 0.928 g/cm3; MFR 1.63 g/10 min; Mw/Mn 3.5) 85, LDPE (d. 0.923; MFR 0.51) 15, 1,3,5-tris(4-hydroxy- 3,5-di-tert-butylbenzyl)-s-triazine-2,4,6-(1H,3H,5H)-trione (III) 0.1, tris(2,4-di-tert-butylphenyl)phosphite (IV) 0.1, poly[[6-(1,1,3,3-tetramethylbutyl)imino-1,3,5-triazine-2,4- diyl][(2,2,6,6-tetramethyl-4-piperidyl)imino]hexamethylene[(2,2,6,6- tetramethyl-4-piperidyl)imino]] (V) 0.1, and 25:70:5 mixture (A) of glycerin monostearate, diglycerin stearate, and diethanol stearylamine 2 parts, was molded with a composition (as an inner layer) containing 86.5:13.5 I-II copolymer (d. 0.908; MFR 1.95; Mw/Mn 3.0) 85, LDPE 15, III 0.1, IV 0.1, V 0.1, and A 3 parts and a composition (as a middle layer) containing 86.5:13.5 I-II copolymer 85, LDPE 15, III 0.1, IV 0.1, V 0.1, and A 2 parts to give a 3-layer tubular film. The film showed light transmittance 90% initially and 58% after 2-yr outdoor exposure and retention of tensile elongation 75% after 2 yr.

IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite
80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritoldiphosphite
RL: MOA (Modifier or additive use); USES (Uses)
(stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



IC ICM A01G009-14
ICS A01G013-02; B32B027-32; C08J005-18; C08K005-00; C08L023-02; C08K005-13; C08K005-3492; C08K005-524; C08K005-3435; C08K005-10; C08L023-04

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 19

IT Antifogging agents
Antioxidants
Greenhouses
Heat stabilizers
Laminated plastic films
Transparent films
(discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(hindered, stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

IT Phosphites
RL: MOA (Modifier or additive use); USES (Uses)
(organic, stabilizer; discoloration-, heat- and

weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

IT 2082-79-3, Octadecyl-3-(4'-hydroxy-3',5'-di-tert-butylphenyl)propionate 27676-62-6 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 40601-76-1 71878-19-8 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritoldiphosphite
RL: MOA (Modifier or additive use); USES (Uses)
(stabilizer; discoloration-, heat- and weather-resistant multilayer polyolefin films having long-lasting antifogging properties for agricultural uses)

L53 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:667676 HCAPLUS Full-text
DOCUMENT NUMBER: 121:267676
TITLE: Prevention of degradation of cellulose acetate films by heat and moisture
INVENTOR(S): Murayama, Masahiko; Sato, Kozo
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06107854	A	19940419	JP 1992-177110	19920703
			<--	
PRIORITY APPLN. INFO.:			JP 1992-177110	19920703
			<--	

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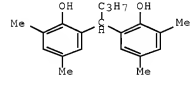


II

AB Cellulose acetate (I) films containing compns. (A) comprising basic compds. (Ba)mX (X = chemical bond or di- or trivalent organic residue; Ba = aryl or aryloxy group containing amino groups or N-containing heterocyclic group; m = 2 or 3) and peroxide decomposing agents, radical chain inhibitors, or metal deactivating agents as discoloration prevention agents or I films having a primer layer containing A are resistant to degradation by heat and moisture and optionally have a surface layer containing emulsified halogenated Ag. The films are useful for photog. base films (with data), protective films for polarizers, optical filters, and release films (no data). A composition comprising cellulose triacetate 100, tri-Ph phosphate 16, II 1, tri-Ph phosphite 0.1, CH2Cl2 270, BuOH 7, and MeOH 70 parts was cast and dried to

give a film 140 μm thick and exhibiting viscosity retention 98% after 120 h at 90° and 100% relative humidity.

IT 101-02-0, Triphenyl phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; prevention of degradation of cellulose acetate films by heat and moisture)

RN 101-02-0 HCAPLUS

CN Phosphorous acid, triphenyl ester (CA INDEX NAME)

IC ICM C08L001-12
ICS C08J005-18; C08K005-00; C08K005-16

ICA G03C001-76

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST cellulose acetate film heat resistance; moisture resistance cellulose acetate film; stabilization heat cellulose acetate film; degrdn prevention cellulose acetate film; discoloration prevention cellulose acetate film; photog film cellulose acetate heat stabilization

IT Heat stabilizers
(basic compound-containing; for prevention of degradation of cellulose acetate films by heat and moisture)

IT 101-02-0, Triphenyl phosphite 33145-10-7 70331-94-1
85238-64-8 155647-70-4 155685-54-4 158659-15-5 158659-16-6
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; prevention of degradation of cellulose acetate films by heat and moisture)

L53 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:540439 HCAPLUS Full-text

DOCUMENT NUMBER: 119:140439

TITLE: Stabilized polyolefin film and fiber compositions

INVENTOR(S): Ishii, Tamaki; Yachigo, Shinichi; Kojima, Fumitoshi; Ida, Kanako

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

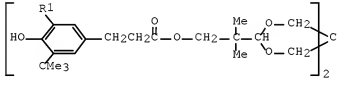
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 530984	A1	19930310	EP 1992-307211	199208 06
			<--	
EP 530984	B1	19951115		
R: BE, DE, FR, GB, IT, NL				
JP 05059227	A	19930309	JP 1991-222727	199109

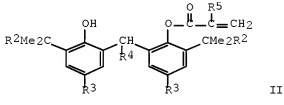
				03
			<--	
JP 3082333	B2	20000828		
CA 2074870	A1	19930304	CA 1992-2074870	
				199207
				29
			<--	
US 5250593	A	19931005	US 1992-940375	
				199209
				03
			<--	
KR 226316	B1	19991015	KR 1992-16021	
				199209
				03
			<--	
PRIORITY APPLN. INFO.:			JP 1991-222727	A
				199109
				03
			<--	

OTHER SOURCE(S): MARPAT 119:140439

GI



I



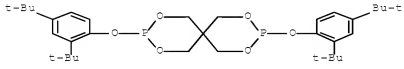
II

AB The title compns., stabilized against thermal oxidation during processing and use and discoloration by combustion gas or N oxides, comprise (per 100 parts polyolefin) ≥0.01 part hindered phenolic spiro compound I (R1 = H, C1-3 alkyl), ≥0.01 part aryl acrylate II (R2 = C1-5 alkyl; R3 = C1-8 alkyl; R4 = H, C1-8 alkyl; R5 = H, Me), ≥0.1 part of a specified organic phosph(on)ite compound and, optionally, a hindered piperidine-based polyester light stabilizer. Thus, a blend containing unstabilized polypropylene 100, Ca stearate 0.05, I (R1 = Me) 0.1, II (R2 = Et, R3 = CMe2Et, R4 = Me, R5 = H) 0.1, bis(2,6-di-tert-butyl-4- methylphenyl)pentaerythritol diphosphite (III) 0.1, and a polycondensate of di-Me succinate with 1-(2-hydroxyethyl)-4-hydroxy- 2,2,6,6-tetramethylpiperidine (IV) 0.1 part was melt-spun at 340° into filaments and stretched at 135°. Discoloration of the resulting filament fibers was observed after 26 days at 135°, vs. 14 days for similar fibers spun from a blend containing no III and no IV.

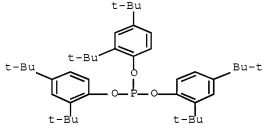
IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 80693-00-1,

Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite
RL: USES (Uses)
(heat and light stabilizers, for
polypropylene fibers)

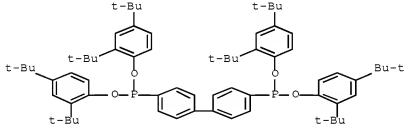
RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane,
3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)



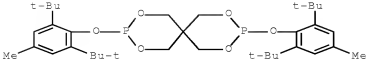
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-,
P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane,
3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



IC ICM C08L023-02
ICS C08K005-00
ICI C08K005-00, C08K005-15, C08K005-13, C08K005-52, C08K005-3435
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 40
ST polyolefin fiber discoloration stabilization; polypropylene fiber discoloration stabilization; hydroxyethylhydroxytetramethylpiperidine polyester heat stabilization polypropylene; film polyolefin discoloration heat stabilization; piperidine compd stabilizer polyolefin
IT Polypropene fibers, miscellaneous
RL: MSC (Miscellaneous)
(heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT Phosphites
RL: USES (Uses)
(heat and light stabilizers, for polyolefin fibers and films)
IT Heat stabilizers
(hindered phenols and organic phosph(on)ites, for light-stabilized polyolefin fiber and film)
IT Light stabilizers
(hindered piperidine-based polyester, for heat-stabilized polyolefin fibers and films)
IT Polyesters, miscellaneous
RL: MSC (Miscellaneous)
(hindered piperidine-based, heat- and light-stabilized polypropylene composition containing)
IT Phenols, uses
RL: USES (Uses)
(hindered, heat and light stabilizers, for polyolefin fibers and films)
IT Alkenes, polymers
RL: USES (Uses)
(polymers, films, heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 61167-58-6 70198-29-7 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite 90498-90-1 118337-09-0 123968-25-2 140221-14-3
RL: USES (Uses)
(heat and light stabilizers, for polypropylene fibers)

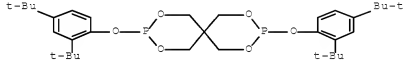
L53 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:535210 HCAPLUS Full-text
DOCUMENT NUMBER: 107:135210
TITLE: Deactivation of impurities in polycarbonate

AUTHOR(S): Blyumenfel'd, A. B.; Levantovskaya, I. I.; Dralyuk, G. V.; Shlyakhter, M. G.
CORPORATE SOURCE: USSR
SOURCE: Plasticheskie Massy (1987), (7), 48-50
CODEN: PLMSAI; ISSN: 0554-2901
DOCUMENT TYPE: Journal
LANGUAGE: Russian

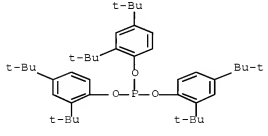
AB The effect of residual CH2Cl2 content (c = 0.03-0.5%) on the optical properties of polycarbonate (PC), obtained by polycondensation of diphenylolpropane disodium salt with phosgene, at processing temperature 280-300° was studied. The light transmission (K) of PC in the absence of CH2Cl2 solvent decreased from 99 to 98% after 10 min heating, and K of PC containing 0.5, 0.2, and 0.03% CH2Cl2 decreased to 79, 84, and 94%, resp., after heating under analogous conditions. The threshold content of CH2Cl2 above which deterioration of the optical properties of PC takes place was determined from the linear K vs. log c dependences to be 0.015%. The effect of heat stabilizers bis(2,4-di-tert-butylphenyl) pentaerythrityl diphosphite and tris(2,4-di-tert-butylphenyl) phosphite on the k of PC films prepared from CH2Cl2 solns. was also determined

IT 26741-53-7 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, deactivation of residual methylene chloride in polycarbonate by, optical properties in relation to)

RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)



RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)

IT Heat stabilizers
(phosphite esters, deactivation of methylene chloride impurities in polycarbonate films by, optical properties in relation to)

IT 26741-53-7 31570-04-4, Tris(2,4-di-tert-

butylphenyl) phosphite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, deactivation of residual methylene chloride in polycarbonate by, optical properties in relation to)

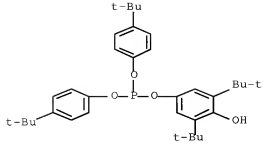
L53 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1974:450639 HCAPLUS Full-text
DOCUMENT NUMBER: 81:50639
ORIGINAL REFERENCE NO.: 81:8091a,8094a
TITLE: Stabilizers for poly(phenylene oxide)
INVENTOR(S): Ohzeki, Toshio
PATENT ASSIGNEE(S): Adeka Argus Chemical Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49023846	A	19740302	JP 1972-65198	197206 29
			<--	
JP 51040589	B	19761104		
PRIORITY APPLN. INFO.:			JP 1972-65198 A	197206 29
			<--	

AB Phosphite (I) and(or) R2O(R3O)POZR4OR5 (R,R1,R2,R3 = H, alkyl, aryl, alicyclic, aralkyl, alkylaryl, or polyphenol residue with or without phosphate groups; R4 = H or R5, R5 = H or P(OR6)OR7; R6,R7 = R,R1,R2, or R3, or R2 and R3 and(or) R6 and R7 may form ring; n = 0 or 1; Z = polyphenol residue) are added to poly(phenylene oxide) composition to stabilize the polymer. Thus, a 2:1 molar mixture of p-tert-BuC6H4OH and 2,6-di-tert-butylhydroquinone in PhMe was treated with 1 mole PCl3, and the mixture was refluxed 2 hr to give bis(p-tert-butylphenyl) 3,5-di-tert-butyl-4-hydroxyphenyl phosphite (II) [7726-10-5]. A composition of 100 parts poly(2,6-dimethyl-1,4-phenylene oxide) [24938-67-8] and 0.5 part II was pressed at 300.deg. to give 1-mm sheets which yellowed lightly after 30 min at 225.deg., compared with brown discoloration for a sheet without II. Similarly used were 20 other phosphite esters.

IT 7726-10-5
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for poly(dimethylphenylene oxide))

RN 7726-10-5 HCAPLUS
CN Phosphorous acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl bis[4-(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



INCL 25(1)D62; 25(1)A231.61
CC 36-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 24, 25
IT Polyoxyphenylenes
RL: USES (Uses)
(heat stabilizers for, organic phosphites as)
IT Heat stabilizers
(organic phosphites, for polyoxyphenylenes)
IT 24938-67-8
RL: USES (Uses)
(heat stabilizers for, bis(butylphenyl) butylhydroxyphenyl phosphite as)
IT 7726-10-5
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for poly(dimethylphenylene oxide))

=> d 154 ibib abs hitstr hitind 1-7

L54 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:573359 HCAPLUS Full-text
DOCUMENT NUMBER: 135:153631
TITLE: Light-diffusion aromatic polycarbonate compositions
INVENTOR(S): Mitsunaga, Masaki
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

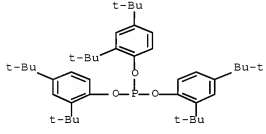
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001214049	A	20010807	JP 2000-127307	200004 27
			<--	
PRIORITY APPLN. INFO.:			JP 1999-333771 A	199911 25
			<--	
OTHER SOURCE(S):		MARPAT 135:153631		

AB The compns., useful for light-diffusion plates, etc., contain (A) 100 parts polymers containing 80-99.995% aromatic polycarbonates and 0.005-20% polymeric fine particles, (B) 0.0001-0.05 part ≥1 P-based stabilizers chosen from di- or mono-R1-substituted biphenyl and (R2O)3P [R1 = P(OR3)2; R2 = dialkyl-substituted C8-20 aromatic group; R3 = (alkyl-substituted) C6-20 aromatic group], (C) 0.001-1.0 part tri-Me phosphate, (D) 0.001-1.0 part hindered phenol compds., and (E) 0-0.5 part fluorescent brighteners. Thus, a composition containing (A) 99 parts bisphenol A-phosgene copolymer, (B) 1 part MBX 5 (crosslinked acrylic polymer particle), (C) 0.003 part a 71:15:14 mixture of (a) a 100:50:1 mixture of tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenediphosphonite, tetrakis(2,4-di-tert-butylphenyl) 4,3'-biphenylenediphosphonite, and tetrakis(2,4-di-tert-butylphenyl) 3,3'-biphenylenediphosphonite, (b) a 5:3 mixture of bis(2,4-di-tert-butylphenyl)-4-phenylphenylphosphonite and bis(2,4-di-tert-butylphenyl)-3-phenylphenylphosphonite, and (c) tris(2,4-di-tert-butylphenyl)phosphite, (D) 0.05 part tri-Me phosphate, and (E) 0.15 part octadecyl 3-(4-hydroxy-3,5-di-tert- butylphenyl)propionate was injection-molded to give a test piece showing total light transmittance (ASTM D 1003) 78.1% and good heat and moisture discoloration resistance.

IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)
4,4'-biphenylenediphosphonite 118421-00-4,
Tetrakis(2,4-di-tert-butylphenyl) 3,4'-biphenylenediphosphonite
118421-01-5, Tetrakis(2,4-di-tert-butylphenyl)
3,3'-biphenylenediphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; light-diffusion aromatic
polycarbonate compns. with good discoloration resistance)

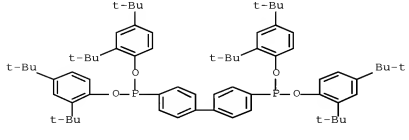
RN 31570-04-4 HCAPLUS

CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)

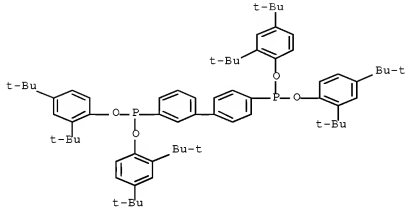


RN 38613-77-3 HCAPLUS

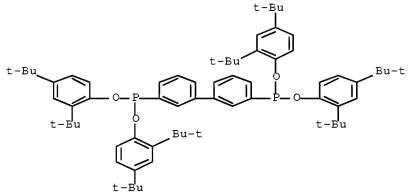
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L069-00
ICS C08K005-00; C08K005-13; C08K005-51; C08K005-521; C08L101-12
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
ST light diffusion arom polycarbonate phosgene bisphenol; heat stabilizer butylphenyl biphenylenediphosphonite phenylphenylphosphonite phosphite; discoloration prevention methyl phosphate octadecyl hydroxybutylphenylpropionate
IT Discoloration prevention agents
Fluorescent brighteners
Heat stabilizers

(light-diffusion aromatic polycarbonate compns. with good discoloration resistance)

IT 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenediphosphonite 91362-37-7, Bis(2,4-di-tert-butylphenyl)-4-phenylphenylphosphonite 118421-00-4, Tetrakis(2,4-di-tert-butylphenyl) 3,4'-biphenylenediphosphonite 118421-01-5, Tetrakis(2,4-di-tert-butylphenyl) 3,3'-biphenylenediphosphonite 313335-83-0, Bis(2,4-di-tert-butylphenyl)-3-phenylphenylphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizer; light-diffusion aromatic polycarbonate compns. with good discoloration resistance)

L54 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:91270 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148383
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031752	A	20010206	JP 1999-207247	199907 22
			<--	
PRIORITY APPLN. INFO.:			JP 1999-207247	199907 22
			<--	

OTHER SOURCE(S): MARPAT 134:148383

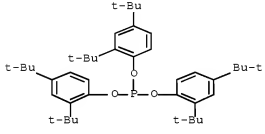
AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and carbonate esters to have relative fluorescence strength at 465 nm vs. standard substance ≤4 x 10-3 in fluorescence spectrum (excited wave length 320 nm) and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' = pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts bisphenol A-diphenyl carbonate copolymer (relative fluorescence strength 1 + 10-3, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

IT 3806-34-6, Dioctadecylpentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid,

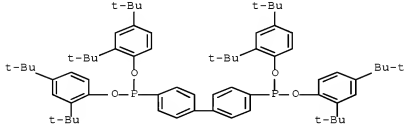
[1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)

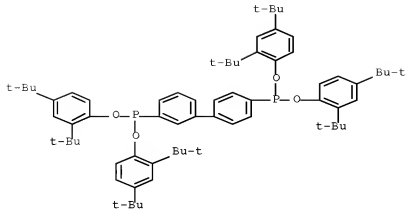
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



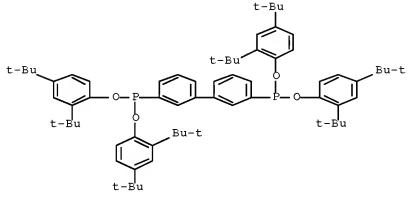
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08G064-04
ICS C08G064-30; C08K005-49; C08L069-00
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and

adhesion)

IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)

IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7, Bis(2,4-di-tert-butylphenyl)-4-phenyl-phenylphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0, Bis(2,4-di-tert-butylphenyl)-3-phenyl-phenylphosphonite
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L54 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:89689 HCAPLUS Full-text
DOCUMENT NUMBER: 134:148377
TITLE: Transparent aromatic polycarbonate compositions with phosphorus-containing stabilizers
INVENTOR(S): Ohira, Yoji
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

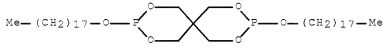
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031859	A	20010206	JP 1999-207246	19990722 <--
PRIORITY APPLN. INFO.:			JP 1999-207246	19990722 <--

OTHER SOURCE(S): MARPAT 134:148377
AB The compns. having high heat resistance in molding, heat-moisture fatigue resistance, and adhesion, suitable for optical disks, sheets, etc., comprise (A) 100 parts aromatic polycarbonates prepared from dihydric phenols and carbonate esters by melt-polymerization to have residual catalyst activity ≤2% and viscosity-average mol. weight 10,000-50,000 and (B) 0.0001-0.15 part

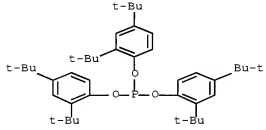
stabilizers of [(Ar1O)2PQ]2, (Ar2O)2PQPh, P(OAr3)3, P(O)(OR1)3, cyclic diphosphites of R2OPQ'POR2, and/or Ar4O(O)(OR3)2 [Ar1, Ar2, Ar4 = (alkyl-substituted) aromatic group; Ar3 = dialkyl-substituted aromatic group; Q = phenylene; R1-3 = alkyl, (alkyl-substituted) aromatic group; Q' = pentaerythritol residue] containing 1-11,000 ppm of H3PO3, Cl, and Cl-. Thus, 100 parts 2,2'-bis(4-hydroxyphenyl)propane- diphenyl carbonate copolymer (residual catalyst activity 0.3%, viscosity-average mol. weight 24,300) and 0.03 part tris(2,4-di-tert- butylphenyl) phosphite containing 20 ppm Cl were mixed, pelletized, and molded into a test piece showing high resistance to thermal discoloration during injection molding.

IT 3806-34-6, Dioctadecylpentaerythritol diphosphite
31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

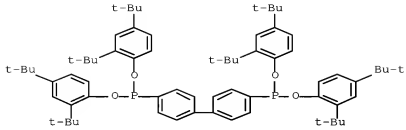
RN 3806-34-6 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(octadecyloxy)- (CA INDEX NAME)



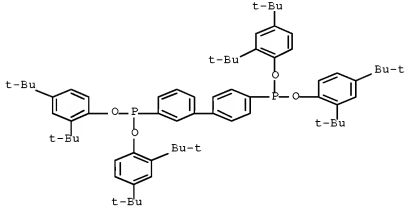
RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



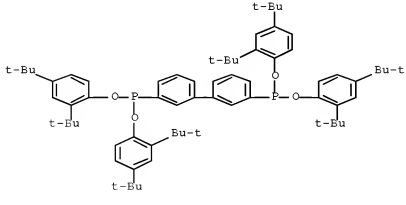
RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-00-4 HCAPLUS
CN Phosphonous acid, P,P'-[1,1'-biphenyl]-3,4'-diylbis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 118421-01-5 HCAPLUS
CN Phosphonous acid, 2,2'-[[1,1'-biphenyl]-3,3'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L069-00
ICS C08K003-32; C08K005-521; C08K005-524; C08K005-53; C08K005-5333;

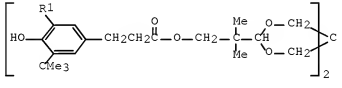
G11B007-24
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74
ST arom polycarbonate organophosphorus heat stabilizer; bisphenol A diphenyl carbonate polymer heat stabilizer; butylphenyl phosphite heat stabilizer arom polycarbonate; optical disk arom polycarbonate phosphorus stabilizer
IT Polycarbonates, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(aromatic; transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Heat stabilizers
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT Optical disks
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion for optical disks)
IT 24936-68-3P, Bisphenol A-diphenyl carbonate copolymer, SRU, preparation 25929-04-8P, Bisphenol A-diphenyl carbonate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)
IT 512-56-1, Trimethyl phosphate 2240-41-7, Dimethyl phenylphosphonate 3806-34-6, Dioctadecylpentaerythritol diphosphite 13598-36-2, Phosphorous acid, uses 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylenediphosphonite 91362-37-7 118421-00-4, Phosphonous acid, [1,1'-biphenyl]-3,4'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 118421-01-5, Phosphonous acid, [1,1'-biphenyl]-3,3'-diylbis-, tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester 313335-83-0
RL: MOA (Modifier or additive use); USES (Uses)
(transparent aromatic polycarbonate compns. containing P-type stabilizers for improving heat resistance and adhesion)

L54 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:540439 HCAPLUS Full-text
DOCUMENT NUMBER: 119:140439
TITLE: Stabilized polyolefin film and fiber compositions
INVENTOR(S): Ishii, Tamaki; Yachigo, Shinichi; Kojima, Fumitoshi; Ida, Kanako
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

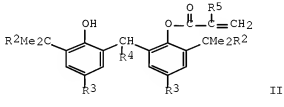
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 530984	A1	19930310	EP 1992-307211	199208 06
			<--	
EP 530984	B1	19951115		
R: BE, DE, FR, GB, IT, NL				
JP 05059227	A	19930309	JP 1991-222727	199109 03
			<--	
JP 3082333	B2	20000828		
CA 2074870	A1	19930304	CA 1992-2074870	199207 29
			<--	
US 5250593	A	19931005	US 1992-940375	199209 03
			<--	
KR 226316	B1	19991015	KR 1992-16021	199209 03
			<--	
PRIORITY APPLN. INFO.:			JP 1991-222727 A	199109 03
			<--	

OTHER SOURCE(S): MARPAT 119:140439

GI



I



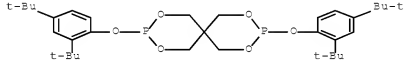
II

AB The title compns., stabilized against thermal oxidation during processing and use and discoloration by combustion gas or N oxides, comprise (per 100 parts polyolefin) ≥0.01 part hindered phenolic spiro compound I (R1 = H, C1-3 alkyl), ≥0.01 part aryl acrylate II (R2 = C1-5 alkyl; R3 = C1-8 alkyl; R4 = H, C1-8 alkyl; R5 = H, Me), ≥0.1 part of a specified organic phosph(on)ite compound and, optionally, a hindered piperidine-based polyester light

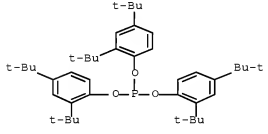
stabilizer. Thus, a blend containing unstabilized polypropylene 100, Ca stearate 0.05, I (R1 = Me) 0.1, II (R2 = Et, R3 = CMe2Et, R4 = Me, R5 = H) 0.1, bis(2,6-di-tert-butyl-4- methylphenyl)pentaerythritol diphosphite (III) 0.1, and a polycondensate of di-Me succinate with 1-(2-hydroxyethyl)-4-hydroxy- 2,2,6,6-tetramethylpiperidine (IV) 0.1 part was melt-spun at 340° into filaments and stretched at 135°. Discoloration of the resulting filament fibers was observed after 26 days at 135°, vs. 14 days for similar fibers spun from a blend containing no III and no IV.

IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 38613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite
RL: USES (Uses)
(heat and light stabilizers, for polypropylene fibers)

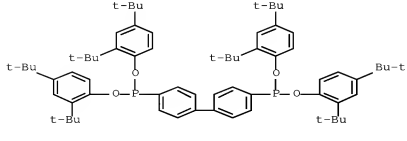
RN 26741-53-7 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (CA INDEX NAME)



RN 31570-04-4 HCAPLUS
CN Phenol, 2,4-bis(1,1-dimethylethyl)-, 1,1',1''-phosphite (CA INDEX NAME)



RN 38613-77-3 HCAPLUS
CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



RN 80693-00-1 HCAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)

IC ICM C08L023-02
ICS C08K005-00
ICI C08K005-00, C08K005-15, C08K005-13, C08K005-52, C08K005-3435
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 40
ST polyolefin fiber discoloration stabilization; polypropylene fiber discoloration stabilization; hydroxyethylhydroxytetramethylpiperidine polyester heat stabilization polypropylene; film polyolefin discoloration heat stabilization ; piperidine compd stabilizer polyolefin
IT Polypropene fibers, miscellaneous
RL: MSC (Miscellaneous)
(heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT Phosphites
RL: USES (Uses)
(heat and light stabilizers, for polyolefin fibers and films)
IT Heat stabilizers
(hindered phenols and organic phosph(on)ites, for light-stabilized polyolefin fiber and film)
IT Light stabilizers
(hindered piperidine-based polyester, for heat-stabilized polyolefin fibers and films)
IT Polyesters, miscellaneous
RL: MSC (Miscellaneous)
(hindered piperidine-based, heat- and light-stabilized polypropylene composition containing)
IT Phenols, uses
RL: USES (Uses)
(hindered, heat and light stabilizers, for polyolefin fibers and films)
IT Alkenes, polymers
RL: USES (Uses)
(polymers, films, heat and light stabilizers for, hindered phenols and organic phosph(on)ites and hindered piperidine-based polyester as)
IT 26741-53-7, Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 31570-04-4, Tris(2,4-di-tert-butylphenyl)phosphite 36613-77-3, Tetrakis(2,4-di-tert-butylphenyl)-4,4'-biphenylene diphosphonite 61167-58-6 70198-29-7 80693-00-1, Bis(2,6-di-tert-butyl-4-methylphenyl)pentaerythritol diphosphite 90498-90-1 118337-09-0 123968-25-2 140221-14-3

RL: USES (Uses)
(heat and light stabilizers, for
polypropylene fibers)

L54 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:575464 HCAPLUS Full-text
DOCUMENT NUMBER: 111:175464
TITLE: Light-resistant polyester compositions
INVENTOR(S): Betto, Masahiro; Nakagawa, Katsumi; Murakami, Shiro; Nanjo, Sadami
PATENT ASSIGNEE(S): Unitika Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01074256	A	19890320	JP 1987-232854	19870916

<--

PRIORITY APPLN. INFO.: JP 1987-232854 19870916

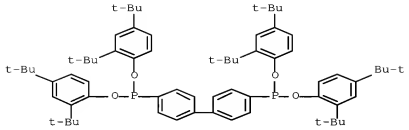
<--

AB Title compns. useful for fibers and films contain light stabilizers selected from 2-hydroxy-4- methoxybenzophenone (I), 2-hydroxy-4-octoxybenzophenone, 2,4-di-tert-butylphenyl 3,5-di-tert-butyl-4-hydroxybenzoate, and/or 2-(2-hydroxy-5-tert-octylphenyl)benzotriazole and heat stabilizers selected from triethylene glycol bis[3-(3-tert-butyl-5-methyl-4-hydroxyphenyl)propionate] (II), pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate], and/or tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylenephosphonite. Thus, poly(ethylene terephthalate) containing 0.3% I and 0.1% II was melt spun, wound, and stretched 6.0 time at 95° to give fiber with strength 8.0-9.0 g/denier and elongation 10-20%. Strength retention of the fiber after 300-h exposure to fade-o-meter at 81-85° was 82.0%, vs., 75.0% without II and 70.5% without I.

IT 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polyester fibers and films, with improved light resistance)

RN 38613-77-3 HCAPLUS

CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L067-00
ICS C08K005-07; C08K005-10; C08L067-00
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 40
ST light resistance polyester film fiber; heat stabilizer blend polyester
IT Heat stabilizers
(hindered phenols and phosphonites, for polyester films and fibers, with good light resistance)
IT Polyester fibers, uses and miscellaneous
Polyesters, uses and miscellaneous
RL: USES (Uses)
(light and heat stabilizers for)
IT 6683-19-8, Pentaerythrityl tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 36443-68-2 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polyester fibers and films, with improved light resistance)
IT 25038-59-9, Poly(ethylene terephthalate), uses and miscellaneous
RL: USES (Uses)
(light and heat stabilizers for)

L54 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:214246 HCAPLUS Full-text
DOCUMENT NUMBER: 110:214246
TITLE: Light-resistant polyester compositions
INVENTOR(S): Betto, Masahiro; Nakagawa, Katsumi; Nanjo, Sadami; Murakami, Shiro
PATENT ASSIGNEE(S): Unitika Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

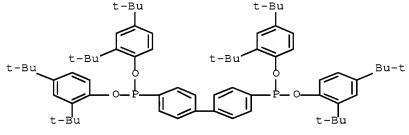
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63273658	A	19881110	JP 1987-108046	19870430
			<--	
PRIORITY APPLN. INFO.:			JP 1987-108046	19870430
			<--	

AB Title compns., useful for fibers and films requiring light resistance, contain (a) polyesters, (b) 2-[3,5-di(tert-butyl)-2-hydroxyphenyl]benzotriazole, 2-[3-(tert-butyl)-5-methyl-2-hydroxyphenyl]-5-chlorobenzotriazole (I), and/or 2-ethoxy-5-(tert-butyl)-2'-ethyloxalic bisanilide as light stabilizers, and (c) triethylene glycol bis[3-[3-(tert-butyl)- 5-methyl-4-hydroxyphenyl]propionate] (II), pentaerythritol tetrakis[3-[3,5-di-(tert-butyl)-4-hydroxyphenyl]propionate], and/or tetrakis[2,4-di(tert-butyl)phenyl] 4,4'-biphenylenephosphonite] as heat stabilizers. Thus, poly(ethylene terephthalate) (intrinsic viscosity 1.2) 100, I 0.3, and II 0.1 part were mixed, spun at 300°, and stretched at 200° to draw ratio 6.0 to obtain a 1000 denier/72 f stretched yarn (strength 8.5 ± 0.5 g/denier, elongation 10-20%) showing strength retention 89.2% in the fading test, compared with 70.5% for a control without I.

IT 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polyesters)

RN 38613-77-3 HCAPLUS

CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L067-00
ICS C08K005-10; C08K005-20; C08K005-34; C08K005-53

CC 37-6 (Plastics Manufacture and Processing)

ST light resistance polyester compn; PET yarn light resistance; butylhydroxyphenylbenzotriazole light stabilizer polyester; butylmethylhydroxyphenylchlorobenzotriazole light stabilizer PET; ethoxybutylethyloxalic bisanilide light stabilizer polyester; triethylene glycol bisbutylmethylhydroxyphenylpropionate heat stabilizer; pentaerythritol tetrakisdibutylhydroxyphenylpropionate heat stabilizer polyester; tetrakisdibutylphenyl biphenylenephosphonite heat stabilizer polyester

IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(compns. containing light stabilizers and heat stabilizers, light-resistant)

IT Heat stabilizers
Light stabilizers
(polyester compns. containing, for fibers and films)

IT 25038-59-9, Poly(ethylene terephthalate), uses and miscellaneous
RL: USES (Uses)
(compns. containing light stabilizers and heat stabilizers, light-resistant)

IT 6683-19-8, Pentaerythritol tetrakis[3-[3,5-di(tert-butyl)-4-hydroxyphenyl]propionate] 36443-68-2 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)

(heat stabilizers, for polyesters)

L54 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1988:151626 HCAPLUS Full-text
DOCUMENT NUMBER: 108:151626
TITLE: Heat- and light-resistant polyester compositions
INVENTOR(S): Betto, Masahiro; Murakami, Shiro; Kitahara, Takeshi
PATENT ASSIGNEE(S): Unitika Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

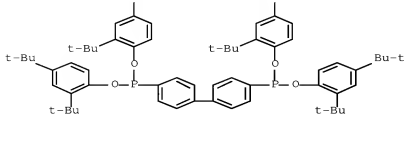
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62240349	A	19871021	JP 1986-82945	198604 10
			<--	
PRIORITY APPLN. INFO.:			JP 1986-82945	198604 10
			<--	

AB Title compns., useful for fibers and films, contain light stabilizers selected from 2-[2-hydroxy-3,5- bis(α,α-dimethylbenzyl)phenyl]-2H-benzotriazole, 2-(3,5-di-tert-butyl-2-hydroxyphenyl)-5-chlorobenzotriazole (I), 2-ethoxy-2'-ethyloxalic acid bis(anilide), and/or bis(1,2,2,6,6-pentamethyl-4-piperidyl) 2-(3,5-di-tert-butyl-4- hydroxybenzyl)-2-n-butylmalonate and heat stabilizers selected from triethylene glycol bis[3-(3-tert-butyl-5-methyl-4-hydroxyphenyl)propionate] (II), pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4- hydroxyphenyl)propionate], and/or tetrakis(2,4-di-tert-butylphenyl) 4,4'-biphenylylenediphosphonite. Thus, PET containing 0.3% I and 0.1% II was melt extruded, wound, and drawn to give fibers with strength 8.5 ± 0.5 g/denier, elongation 20-24%, and strength retention after 300-h exposure to fade-o-meter 88.3%, compared with 70.5% retention for fibers prepared without I.

IT 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polyester fibers and films)

RN 38613-77-3 HCAPLUS

CN Phosphonous acid, P,P'-[[1,1'-biphenyl]-4,4'-diyl]bis-, P,P,P',P'-tetrakis[2,4-bis(1,1-dimethylethyl)phenyl] ester (CA INDEX NAME)



IC ICM C08L067-02
ICS C08K005-11; C08K005-20; C08K005-34; C08K005-53
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 40
ST polyester fiber heat light resistance; thermal stabilizer polyester fiber; phosphonite stabilizer polyester fiber; hindered phenol stabilizer polyester fiber
IT Polyester fibers, uses and miscellaneous
Polyesters, uses and miscellaneous
RL: USES (Uses)
(heat and light stabilizers for)
IT Heat stabilizers
(hindered phenols and phosphonites, for polyester films and fibers)
IT 6683-19-8 36443-68-2 38613-77-3
RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for polyester fibers and films)

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